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Letter to the editor

Outcome prediction and reporting in nonconvulsive status epilepticus

Outcome prediction in status epilepticus (SE) and in particular nonconvulsive SE (NCSE) is clinically important for patient management as well as optimal use of resources, e.g. intensive care beds. Whereas risk factors describe group effects, an outcome predicting score supports clinicians in decision making concerning *individual* patients. Results of studies reporting the performance of outcome prediction scores should be appraised critically as they may promote or misadvise the use of a score in individuals in real life.

With great interest we read the article "Adult nonconvulsive status epilepticus in a clinical setting: Semiology, aetiology, treatment and outcome" by Power et al. [1] The clear conduct of the study and detailed reporting add significantly to the understanding of NCSE, which needs more outcome data urgently. The authors claimed to use the STESS-score (STatus Epilepticus Severity Score) for retrospective evaluation of outcome prediction as described in their methods section. However, they made substantial and meaningful modifications: instead of scoring patients older than 65 years with two points as in the original publications [2,3], they gave one point for this age group. The reduction of the score points in elderly patients would predispose to reduced estimation of risk. In addition the authors deviated also from STESS definitions in the outcome parameter of "dying or suffering severe sequelae". In the original STESS score, bad outcome was only death, but not severe sequelae [2]. We think that both modifications may be justified, since STESS suffers from a ceiling effect [4], but the term "STESS" cannot be applied to this score. The used score may have some advantages, but needs to be named differently and should be validated in direct comparison to the original STESS, or to EMSE (Epidemiology based Mortality score in SE) [5]. Finally, reporting the performance of outcome prediction scores should include negative and positive predictive value, and accuracy (i.e. number of true positives and true negatives, per total population) [4]. A poor positive predictive value may outweigh the benefits as too many "false alarms" may impact on clinical resources and have economical sequences.

We hope to have added information in order to better interpret the clinically valuable data of Power et al. and to prevent some potentially disadvantageous misinterpretations.

Conflict of interest statement

Eugen Trinka has acted as a paid consultant for Eisai, Ever Neuropharma, Biogen Idec, Medtronics, Bial, and UCB and has received speakers' honoraria from Bial, Eisai, GL Pharma, GlaxoSmithKline, Boehringer, Viropharma, Actavis, and UCB Pharma in the past 3 years. Eugen Trinka has received research funding from UCB Pharma, Biogen Idec, Red Bull, Merck, the EU, FWF Österreichischer Fond zur Wissenschaftsförderung, and Bundesministerium für Wissenschaft und Forschung. Eugen Trinka is also one of the investigators planning ESETT (Established Status Epilepticus Treatment Trial). Julia Höfler has received speakers' honoraria from UCB Pharma and travel support from Eisai and GL Pharma. Judith Dobesberger has received honoraria and travel support from UCB Pharma, Gerot-Lannach, Eisai, GlaxoSmithKline, and Neurodata GmbH/Micromed Austria. Markus Leitinger has received a travel grant from Medtronic and UCB Pharma. Gudrun Kalss has recieved travel support from UCB Pharma. Alexandra Rohracher and Giorgi Kuchukhidze have no conflicts of interest to declare.

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